

WHAT IS CLAIMED IS:

Sub A 1. A gaseous composition at a temperature below about 200°C at atmospheric pressure, adapted to deposit at least a first layer of tin oxide and silicon oxide onto glass at a rate of deposition greater than about 350Å/sec.

5 5. at a temperature below about 200°C, at atmospheric pressure, wherein the *gaseous* composition comprises a precursor of tin oxide, a precursor of silicon oxide, an accelerant selected from the group consisting of organic phosphites, organic borates and water, and mixtures thereof, and a source of oxygen.

10 2. The composition of claim 1 wherein the substrate is transparent flat glass at a temperature of from about 450 to about 650°C.

3. The composition of claim 1 producing a glass article having essentially no reflected color in daylight.

4. The composition of claim 1 wherein the glass substrate is moving and the deposition is continuous.

15 5. The composition of claim 1 at a temperature below about 175°C.

Sub A 6. The composition of claim 1 wherein the accelerant is triethyl phosphite.

20 7. The composition of claim 1 wherein the precursor of the tin oxide is R_nSnX_{4-n} , where R is a straight, cyclic, or branched-chain alkyl, or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or $R'CH_2CH_2-$, where R' is MeO_2C- , EtO_2C- , CH_3CO- , or HO_2C- ; X is selected from the group consisting of halogen, acetate, perfluoroacetate, and their mixtures; and where n is 0, 1, or 2.

25 8. The composition of claim 1 wherein the precursor of the tin oxide is an alkyltin halide.

9. The composition of claim 1 wherein the precursor of the tin oxide is an alkyltin chloride.

30 10. The composition of claim 1 wherein the precursor of the tin oxide is chosen from the group consisting of monobutyltin trichloride, dibutyltin dichloride, tributyltin chloride, and tin tetrachloride.

11. The composition of claim 1 wherein the precursor of silicon oxide is $R_mO_nSi_p$, where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and

R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbons, and phenyl or substituted phenyl.

11 12. The composition of claim 1 wherein the precursor of silicon oxide is selected from the group consisting of tetraethylorthosilicate, diacetoxymethylbutoxysilane, ethyltriacetoxysilane, methyltriacetoxysilane, methyldiacetoxysilane, tetramethyldisiloxane, tetramethylcyclotetrasiloxane, dipinacoloxysilane, 1,1-dimethylsila-2-oxacyclohexane, tetrakis (1-methoxy-2-propoxy) silane, and triethoxysilane.

10 13. The composition of claim 1 wherein the precursor of silicon oxide is tetraethylorthosilicate.

14. The composition of claim 1 wherein the accelerant comprises triethyl phosphite.

15 14. The composition of claim 1 wherein the accelerant comprises triethyl phosphite and triethyl borate.

Sub A³ 16. The composition of claim 1 wherein the rate of deposition is greater than about 400Å/sec.

17. The composition of claim 1 wherein the first layer is amorphous.

18. The composition of claim 1 wherein the first layer comprises a plurality of layers, and at least a second layer is deposited on the first layer.

19. The composition of claim 18 wherein the second layer comprises a tin oxide.

20. The composition of claim 18 wherein the second layer comprises a mixture of tin oxide and a fluorine compound.

25 21. The composition of claim 18 wherein the first layer has a refractive index which changes continuously between the substrate and the second layer.

20 22. The composition of claim 18 wherein the second layer comprises a doped tin oxide.

30 23. The composition of claim 18 wherein the second layer is deposited from a precursor mixture comprising monobutyltin trichloride and a fluorine-containing material.

24. The composition of claim 18 wherein the first layer is deposited from a precursor mixture comprising monobutyltin trichloride and tetraethyl orthosilicate in the presence of triethyl phosphite.

25. A gaseous composition adapted to deposit at least a first layer of tin oxide and silicon oxide onto glass at a temperature below about 200°C, at atmospheric pressure, by the method of depositing at least one amorphous layer onto glass at a rate greater than about 400Å/sec., the layer having a controlled index of refraction, by applying to the glass a mixture of a tin oxide precursor, a silicon oxide precursor, and at least one accelerant chosen 10 from the group consisting of boron and phosphorus esters and water.

26. The composition of claim 25 applied by continuous chemical-vapor deposition of a mixture of monobutyltin trichloride, tetraethylorthosilicate and an accelerant onto a moving glass sheet, wherein the glass is at a temperature of from about 450 to about 650°C.

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